

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 28 (NORBECK ROAD) AND AVERY ROAD IN MONTGOMERY COUNTY. EXISTING LOOP DETECTORS ON THE MAIN LINE AND SIDE STREETS ARE TO BE REPLACED WITH VIDEO DETECTION EQUIPMENT AND RELATED ZONES. ANY EXISTING INCANDESCENT SIGNAL AND/OR PEDESTRIAN SIGNAL HEADS WILL BE UPGRADED TO LED SIGNAL HEADS. THE EXISTING SIGNAL HEADS WILL BE DISCONNECTED AND THE PROPOSED SIGNALS WILL BE CONNECTED USING THE EXISTING SIGNAL HEAD WIRING. MD 28 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION. EXISTING PEDESTRIAN EQUIPMENT WILL BE REPLACED WITH AN ACCESSIBLE PEDESTRIAN PUSHBUTTON SYSTEM (APS) AND ANY ADDITIONAL PEDESTRIAN SIGNAGE.

II. INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A FOUR PHASE SEMI-ACTUATED MODE WITH EXCLUSIVE/PERMISSIVE LEFT TURN PHASES FOR THE EB APPROACH OF MD 28. AN ALTERNATE PEDESTRIAN PHASE EXISTS ACROSS THE WEST LEG OF MD 28 AND ACROSS THE EAST GUDE APPROACH.

III. SPECIAL NOTES:

1. APS WILL FUNCTION AS FOLLOWS:

- TO CROSS AVERY ROAD
- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS AVERY AT NORBECK WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
- TO CROSS NORBECK ROAD
- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS NORBECK AT AVERY WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
2. THE CONTRACTOR SHALL PURCHASE AND DELIVER THE 2-WIRE CENTRAL CONTROL UNIT FOR THE CONTROLLER TO SHA SIGNAL SHOP, AT 7491 CONNELLY ROAD, HANOVER, MD 21076. MR. EDWARD RODENHIZER AT 410-787-7652 SHALL BE CONTACTED AT LEAST 3 DAYS PRIOR TO THE DELIVERY.

PROJECT CONTACTS

CONTACT PERSONS FOR SHA DISTRICT 3:

MS. ANYESHA MOOKHERJEE  
ASSISTANT DISTRICT ENGINEER-TRAFFIC  
PHONE: 301-513-7498

MR. TOM FOUNTAIN  
ASSISTANT DISTRICT ENGINEER-MAINTENANCE  
PHONE: 301-513-7304

MR. VICTOR GRAFTON  
UTILITY ENGINEER  
PHONE: 301-513-7350

CONTACT PERSONS FOR SHA OFFICE OF TRAFFIC AND SAFETY:

MR. AVIJIT MAJI  
CHIEF, TRAFFIC OPERATIONS  
410-787-7630

MR. ROBERT SNYDER  
ASIST. DIVISION CHIEF, TRAFFIC OPERATIONS  
410-787-7631

MR. ED RODENHIZER  
CHIEF, SIGNAL OPERATIONS  
410-787-7650

MS. DARLENE EIDE  
SUPPLY OFFICER IV (SIGNAL SHOP WAREHOUSE)  
PHONE: 410-787-7668

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

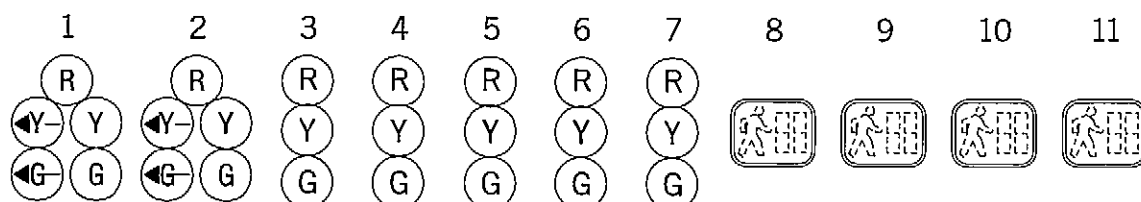
CATEGORY CODE	QTY	UNITS	DESCRIPTION
816015	1	EA	VIDEO DETECTION INTERFACE EQUIPMENT: 1-8 CAMERAS
973023	48	SF	SHEET ALUMINUM SIGN
			4 EA S1-1 (36"X36")
			2 EA W16-7P(R) (24"X12")
			2 EA W16-7P(L) (24"X12")
			4 EA R10-3(1) (9"X15")

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATEGORY CODE	QTY	UNITS	DESCRIPTION
120500	1	EA	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
585433	40	LF	5 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585621	974	LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585625	110	LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
800000	20	EA	LED SIGNAL HEAD MODULES (ANY SIZE)
800000	1	EA	2 WIRE CENTRAL CONTROL UNIT
800000	4	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	1	EA	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
800000	4	EA	VIDEO DETECTION CAMERA AND CABLE
801004	2	CY	CONCRETE FOR SIGNAL FOUNDATION
801106	56	LF	WOOD SIGN SUPPORTS UP TO 4" X 6"
801607	48	SF	INSTALL SHEET ALUMINUM SIGN
802501	40	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805135	40	EA	3" SCHEDULE 80 RIGID PVC CONDUIT- TRENCHED
818004	1	EA	10 FOOT BREAKAWAY PEDESTAL POLE
860264	4	EA	LED 16" COUNTDOWN PEDESTRIAN SIGNAL HEAD
806284	5	EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860292	1	EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
861105	840	LF	ELECTRICAL CABLE -2 CONDUCTOR (NO. 14 AWG )
861107	840	LF	ELECTRICAL CABLE -5 CONDUCTOR (NO. 14 AWG )

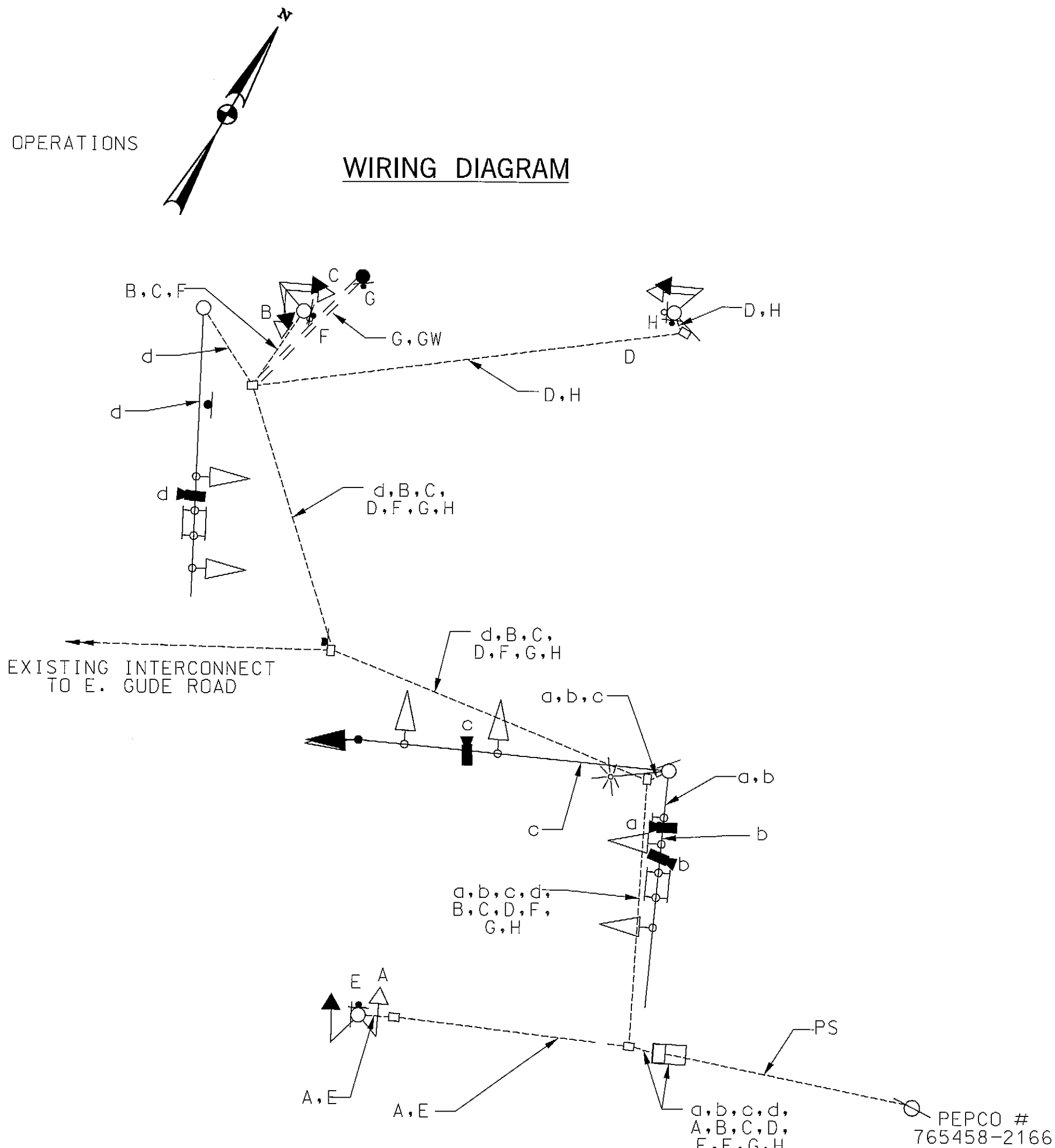
C. ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART



PHASE 1 AND 6	G	G	G	R	R	R	R	DW	DW	DW	DW	
1 AND 6 CHANGE	G	G	G	R	R	R	R	DW	DW	DW	DW	
PHASE 2 AND 6	G	G	G	G	G	R	R	WK	WK	DW	DW	
PED CLEAR / COUNTDOWN	G	G	G	G	G	R	R	FL/DW	FL/DW	DW	DW	
2 AND 6 CHANGE	Y	Y	Y	Y	Y	R	R	DW	DW	DW	DW	
PHASE 4	R	R	R	R	R	G	G	DW	DW	DW	DW	
4 CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW	
PHASE 4 ALT	R	R	R	R	R	G	G	DW	DW	WK	WK	
PED CLEAR / COUNTDOWN	R	R	R	R	R	G	G	DW	DW	FL/DW	FL/DW	
PHASE 4 ALT CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK	

WIRING DIAGRAM



WIRING KEY

- a b c } 250' VIDEO DETECTION CAMERA LEAD-IN CABLE
- d } 500' VIDEO DETECTION CAMERA LEAD-IN CABLE
- A B C D } 5-CONDUCTOR ELECTRICAL CABLE, NO. 14 AWG/THHN
- E F G H } 2-CONDUCTOR ELECTRICAL CABLE, NO. 14 AWG/THHN
- GW } 1 CONDUCTOR (NO. 6 AWG) STRANDED COPPER GROUND WIRE
- PS } EXISTING POWER SOURCE

**SHA**STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
MD 28 (NORBECK RD)  
AT AVERY RD  
ROCKVILLE, MARYLAND

**GENERAL INFORMATION SHEET**

SCALE 1"=20' DATE 01-07-12 CONTRACT NO. MO1315277

DESIGNED BY JMS COUNTY MONTGOMERY  
DRAWN BY LEB LOGMILE 15002824.31  
CHECKED BY AJM TMS NO. L687  
FAP NO. TOD NO.

TS NO. 4036C-GI DRAWING SG-02 OF 06 SHEET NO. 2 OF 6